

This file contains just the list of integrals that appeared on our Integration Bee. To see fun puzzles and the actual layout of the competition, go to the interactive version.

ROUND 1:

$$(1) \quad \int_0^1 \sqrt{1+3x} \, dx$$

$$(2) \quad \int_1^2 \frac{x^2-1}{x-1} \, dx$$

$$(3) \quad \int_0^1 |1-3x| \, dx$$

$$(4) \quad \int_0^1 \frac{dx}{x^2+3x+2}$$

$$(5) \quad \int \frac{dx}{x^2+2x+2}$$

$$(6) \quad \int \frac{\tan x}{\cos^3 x} \, dx$$

$$(7) \quad \int_{-\pi}^{\pi} [2 + \sin(\sin x)] \, dx$$

$$(8) \quad \int_0^3 \text{sign}(x^2-4) \, dx$$

ROUND 2:

$$(9) \quad \int x^2 \ln x \, dx$$

$$(10) \quad \int \frac{x^3}{x^2+1} \, dx$$

$$(11) \quad \int_0^{1/2} \sqrt{1-x^2} \, dx$$

$$(12) \quad \int \frac{\tan^3 x}{\cos^4 x} \, dx$$

ROUND 3:

$$(13) \quad \int_0^1 e^{\sqrt{x}} \, dx$$

$$(14) \quad \int_0^1 \frac{1-2x \arctan x}{(1+x^2)^2} \, dx$$

$$(15) \quad \int_0^{\pi/2} [\sin^6 x + 3 \sin^4 x \cos^2 x] \, dx$$